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ABSTRACT

The purpose of this study is to determine the effectiveness of an individualized program for learning-disabled children. The subjects participated individually prescribed learning activities, which involved small-group interactions directed toward the growth and development of perceptual skills, perceptual-motor skills and self-concepts, and interpersonal skills. The activities were implemented through a multi-faceted reading program, which served as a foundation for daily instruction and permitted the children to learn through their perceptual strengths. This training was integrated into the reading program. One hour of remediating activities was provided each day to meet each child's most serious area of perceptual weakness. Throughout the program the children were given a battery of diversified tests and were constantly reevaluated. The findings indicated that children with learning disabilities can make startling progress when placed in an individualized program of instruction and continuing evaluation. The implications for placing learning-disabled children in regular classrooms are discussed. The conclusion is reached that if "mainstreaming" such children is to be an effective alternative, an individualized program of instruction and continuing evaluation is essential to the child and vital to the teacher, who is charged with the responsibility for the child's learning. Educators must build evaluation into all their programs dealing with learning-disabled children enrolled in special and regular classes. (JD)

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A System Approach To The Evaluation of Children With Learning Disabilities

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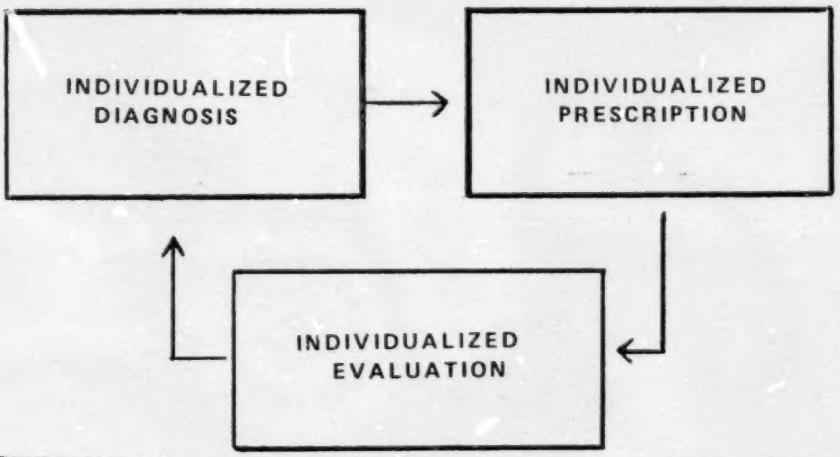
How much progress can be expected from learning disabled children?

Such children are often labeled "lazy", "slow", "emotionally disturbed" or "mentally retarded." These labels imply that little real growth is possible. This conclusion is reinforced by using broad based norm-referenced tests to evaluate any mental growth. Since many learning disabled children experience difficulty in reading and writing, they fall below the limits of such tests. Their growth is often a mystery to educators. The purpose of this study was to determine the effectiveness of an individualized program for learning disabled children. The program involved the following three components:



The first component, individualized diagnosis, supplied the information upon which each child's program was based. This prescription for educational development was evaluated periodically and recycled again and again during the course of the year. How effective is such a program which utilizes evaluation at every junction? How much progress can be expected from learning disabled children?

Program

The program which evolved is illustrated in Figure I. The ten distinct activities which were developed are described in the left-hand column.

SKILLS AREAS

LEARNING ACTIVITIES (+)	Gross Motor Development	Fine Motor Development	Visual Perception Training	Auditory Perception Training	Language Development	Conceptual Skills Comprehension	Interpersonal Relationships	Developmental Maturity	Sensory Motor Integration	MEASUREMENT INSTRUMENTS (¢)
PROGRAMED INSTRUCTION IN PHONICS DISTAR - ENGELMANN		+ ¢	+ ¢	¢	+ ¢	+ ¢				STANFORD READING TEST VOC. & READING COMPREHEN
BASAL READER PROGRAM BANK STREET SERIES MACMILLAN AND COMPANY	¢	¢	¢	+	+			¢		GOODENOUGH DRAW-A-MAN DEVELOPMENTAL MATURITY
LANGUAGE - EXPERIENCE READING PROGRAM CLASS CHARTS, INDIVIDUAL STORIES		+ ¢	¢		+	+	+	¢		VALETT'S SKILLS INVENTORY VISUAL MOTOR COORDINATION
INDIVIDUALIZED READING TAPED STORIES, LIBRARY BOOKS, SILENT READING, ETC.	¢				+ ¢	+	¢	¢		CALIF. PERSONALITY TEST PERSONAL & SOCIAL ADJUST.
TRIPLE-PERCEPTUAL APPROACH TO READING INSTRUCTION THE WRITING ROAD TO READING SPALDING		+	+	+			¢	+ ¢		SEMANTIC DIFFERENTIAL STUDENT ATTITUDES
MANIPULATIVE ACTIVITIES TAPED ACTIVITIES, PAPER AND PENCIL ACTIVITIES - TIMES RESOURCE COMPANY	+	+	+	+			+ ¢	+		SOCIOMETRIC TEST INTERPERSONAL RELATIONSHIPS
PAPER AND PENCIL VISUAL PERCEPTUAL ACTIVITIES ASSORTED SHEETS CONTINENTAL PRESS		+	+							
GROSS MOTOR/BODY-IMAGE ACTIVITIES BALANCING BEAM, SKIPPING, HOPPING, SONG/GAMES	+		+	+			+	+		
PERCEPTUAL-MOTOR TRAINING PUZZLES DRAWING BIZZAR BOARD, LOTTO, BINGO, DOMINOES, RUMMY, SONG/GAMES	+	+	+	+			+	+		
ARTS & CRAFTS ACTIVITIES PAINTING, SCISSOR CUTTING, SEWING, WEAVING, WOOD-SHOP PROJECTS	+	+	+			+	+	+		

The category, Learning Activities, lists the resources and activities utilized to facilitate growth in each developmental area listed. The children were diagnosed by a battery of instruments, listed in the right-hand column, and specific prescriptive programs were developed for each child to include one or more of the appropriate learning activities. As the children made progress, changes in the diagnosis and prescription resulted.

The children involved in this program were sixteen (16) seven and eight-year old children with learning disabilities enrolled in a learning disabilities class in a New York City public school. These children participated in individually prescribed learning activities which involved small-group interactions directed toward the growth and development of perceptual skills, perceptual-motor skills and self-concept and interpersonal skills. The activities were implemented through a multi-faceted reading program which served as a foundation for daily instruction and permitted the children to learn through their perceptual strengths. This training was integrated into the reading program. One hour of remediating activities was provided each day to meet each child's most serious area of perceptual weakness.

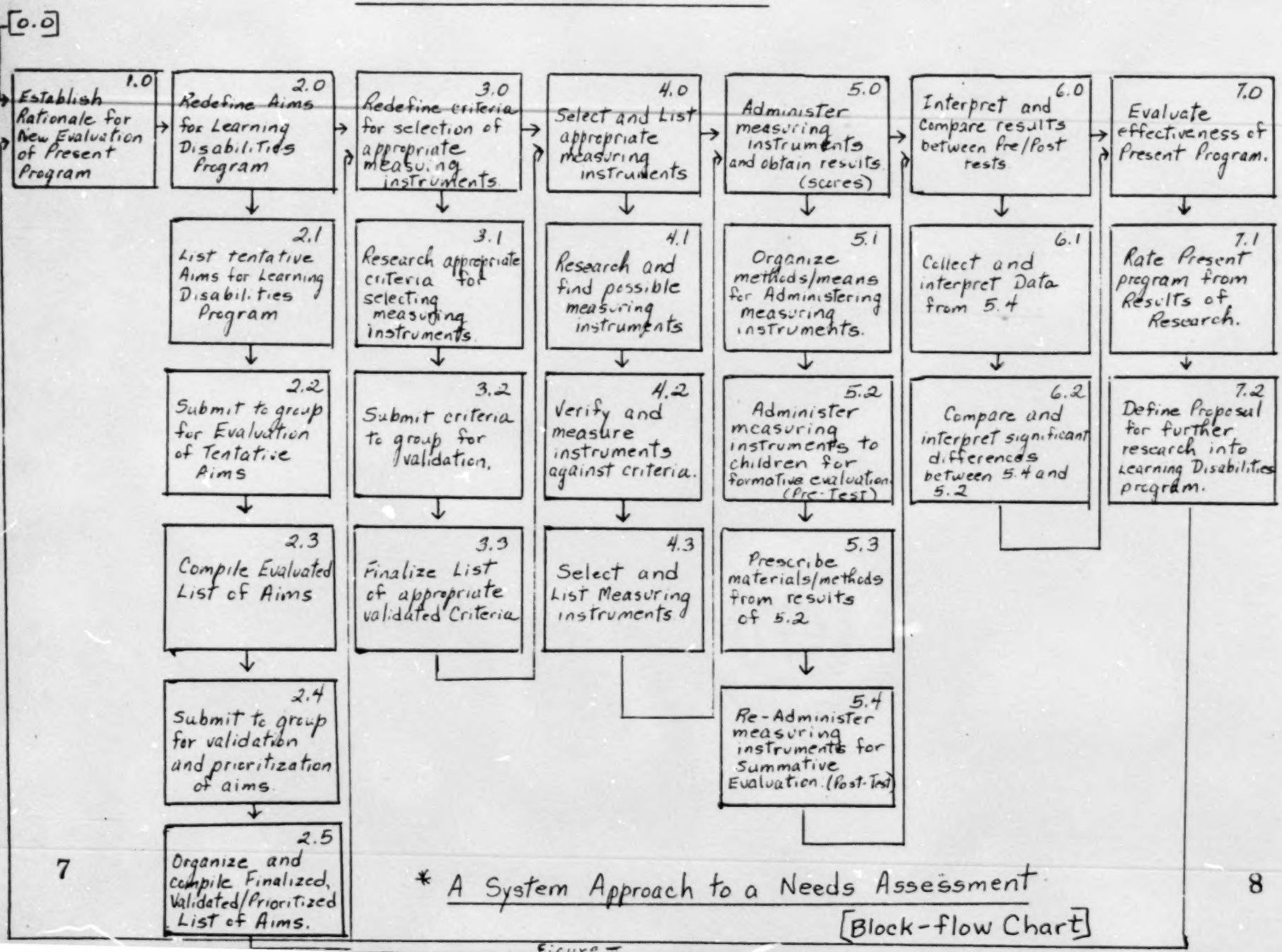
The children worked in an informal, open environment under the direction of a specially trained, experienced teacher.

Evaluation Model

This entire program was evaluated by means of a broad-based systems process model, (Figure 2), which was developed for the purpose of providing a basic, step-wise, performance-based plan for conducting a valid evaluation of a comprehensive program for children with learning disabilities. It provided the information necessary to accomplish the stated goals, by setting guidelines and procedures to achieve these goals.

By using a strategy called needs assessment, a procedure designed to reveal the "actual" needs of the system, we can validly measure the difference between the existing system and the stated goals. This difference identifies the educational need of the client, group, program or community we are evaluating.

PROFILE AND FUNCTIONS *


0.0
1.0 Establish Rationale for New Evaluation of Present Program
2.0 Redefine Aims for Learning Disabilities Program
2.1 List tentative Aims for Learning Disabilities Program
2.2 Submit to group for Evaluation of Tentative Aims
2.3 Compile Evaluated List of Aims
2.4 Submit to group for validation and prioritization of aims
2.5 Organize and compile Finalized, Validated/Prioritized List of Aims.
3.0 Redefine criteria for selection of appropriate measuring instruments
3.1 Research appropriate criteria for selecting measuring instruments.
3.2 Submit criteria to group for validation.
3.3 Finalize List of appropriate validated Criteria
4.0 Select and List appropriate measuring instruments
4.1 Research and find possible measuring instruments
4.2 Verify and measure instruments against criteria.
4.3 Select and List Measuring instruments
5.0 Administer measuring instruments and obtain results (scores)
5.1 Organize methods/means for Administering measuring instruments.
5.2 Administer measuring instruments to children for formative evaluation (Pre-Test)
5.3 Prescribe materials/methods from results of 5.2
5.4 Re-Administer measuring instruments for Summative Evaluation. (Post-Test)
6.0 Interpret and Compare results between Pre/Post tests
6.1 Collect and interpret Data from 5.4
6.2 Compare and interpret significant differences between 5.4 and 5.2
7.0 Evaluate effectiveness of Present Program.
7.1 Rate Present program from Results of Research.
7.2 Define Proposal for further research into Learning Disabilities program.

* A System Approach to a Needs Assessment

[Block-flow Chart]

Figure 7

The Mission Profile is a block-flow diagram which is subject to revision. Each block represents a major step in the profile and outlines the function to be analyzed in terms of the purpose of the function.

The results of each function analysis is to be documented in writing. The results of the final function analysis is re-directed back to the original purpose, having the effect of closing the loop.

Instruments

The selection of the measuring instruments used in this study was based upon the criteria of validity, reliability and usability.

Criterion I: Validity

a) The test must be appropriate, within reason, for the learning-disabled child. (Fair items)

b) It must indicate estimates of cognitive and/or affective development.

Criterion II: Reliability

a) The test must be one which has been administered at least on two occasions to children whose characteristics are the same as the learning-disabled group of children to whom the test will be administered.

b) The test should have enough items to satisfy our purpose.

Criterion III: Usability

The physical characteristics of the test should facilitate easy handling and good response. The test manual shoudl contain clear directions as to administration and scoring.

The measuring instruments which were evaluated and accepted as appropriate for this study are as follows:

Stanford Reading Achievement Test (Primary)

California Test of Personality (Primary)

Valett's Inventory of Primary Skills (Visual-Motor Skills)

Goodenough Draw-A-Man Test

Semantic Differential Scale (SDS) Adapted from Osgood, Suci and Tannenbaum.

The Semantic Differential Scale (SDS) was developed to measure the attitudes of children toward themselves, their friends and their teacher. These concepts, Me, My Friends and My Teacher, were rated against twelve (12) bi-polar items on a three-point scale; the highest score obtainable is 36. A three-point scale was used due to the difficulty children with learning disabilities encounter when dealing with abstractions.

Sociometric Tests

Sociometric tests were administered to determine whether the factor of working with at least one pupil of their choice in small groups would facilitate improved personal relationships among the students. Data was obtained prior to small-group instruction and at the end of a four-week period of small-group instruction.

Results

The analyses of the data arising from this study are as follows:

The computed t values obtained for the Stanford Reading Achievement Test, Vocabulary and Reading Comprehension, are 3.22 and 11.16, respectively, and are greater than 2.120, the significant t value at the .05 level of significance. (Fisher-Yates - Table III). The null hypothesis is, therefore, rejected at the .05 level of significance for Vocabulary and Comprehension, and it is concluded that there is a signficant difference between the means of the pre and post-test reading scores for this sample of children with learning disabilities.

The computed to value obtained for Valett's Inventory of Primary Skills (Visual-Motor Test) is 4.88, greater than 2.101, indicating significance at the .05 level of significance. The null hypothesis is, therefore, rejected at the .05 level of significance and it is concluded that there is a significant difference between the means of the pre and post-test Visual-Motor scores obtained.

The computed t value obtained for the Goodenough Draw-A-Man Test is 3.20, which is greater than 2.58, the significant t value at the .01 level of significance. (Turney

and Robb, 1971.) The null hypothesis is, therefore, rejected at the .01 level of significance, and it is concluded that there is a significant difference between the means of the pre and post-test Developmental Maturity scores obtained.

The rejection of the null hypothesis at the .05 and .01 levels of significance indicates that the observed differences between the means of the pre and post-test data obtained from these tests is so large that it is unlikely that the difference was due to chance. At the .05 level of significance, the probability that an obtained difference is due to chance is 5 out of 100; at the .01 level of significance, the difference could occur by chance only one time in 100.

Since the value of t that are required for significance at the .01 and .05 levels of significance are dependent upon the size of the samples used in a study, certain precautions should be exercised in interpreting the findings in this study, since the sample was relatively small.

The post-test data obtained from the California Test of Personality (Primary), (Fig.III) Personal Adjustment, illustrates a more normal distribution of scores when compared with the pre-test scores which illustrate a skewed negative distribution of scores.

The post-test data obtained from the area of Social Adjustment indicates a skewed positive distribution. This shift to the right in the distribution of scores indicates an improvement in social adjustment for the class when compared with the distribution of the pre-test scores.

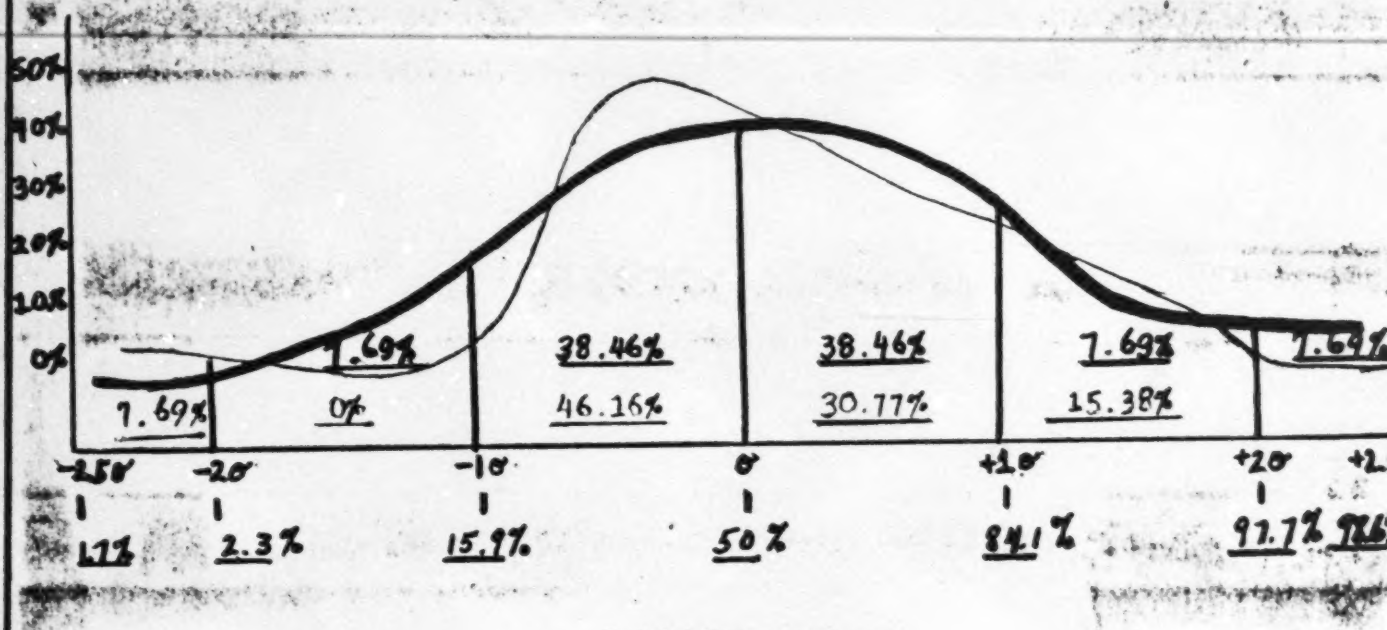
These test results indicate a movement toward better personal and social adjustment for this group of learning disabled children

The mean scores obtained on the Semantic Differential Scale (SDS) were 33.8, 33.5, and 33.2, respectively for the concepts Me, My Friends, and My Teacher, and supported the data obtained from the California Test of Personality (Primary).

The data obtained from the Sociometric Test administered at the end of the four-week period, shows an increase in the number of students who indicated mutual choices. Each of the two isolates indicated by the results of the Sociometric Test administered prior to the four-week period during which the children were allowed to work with at

CALIFORNIA TEST OF PERSONALITY (PRIMARY)

Personal Adjustment Scores



Social Adjustment Scores

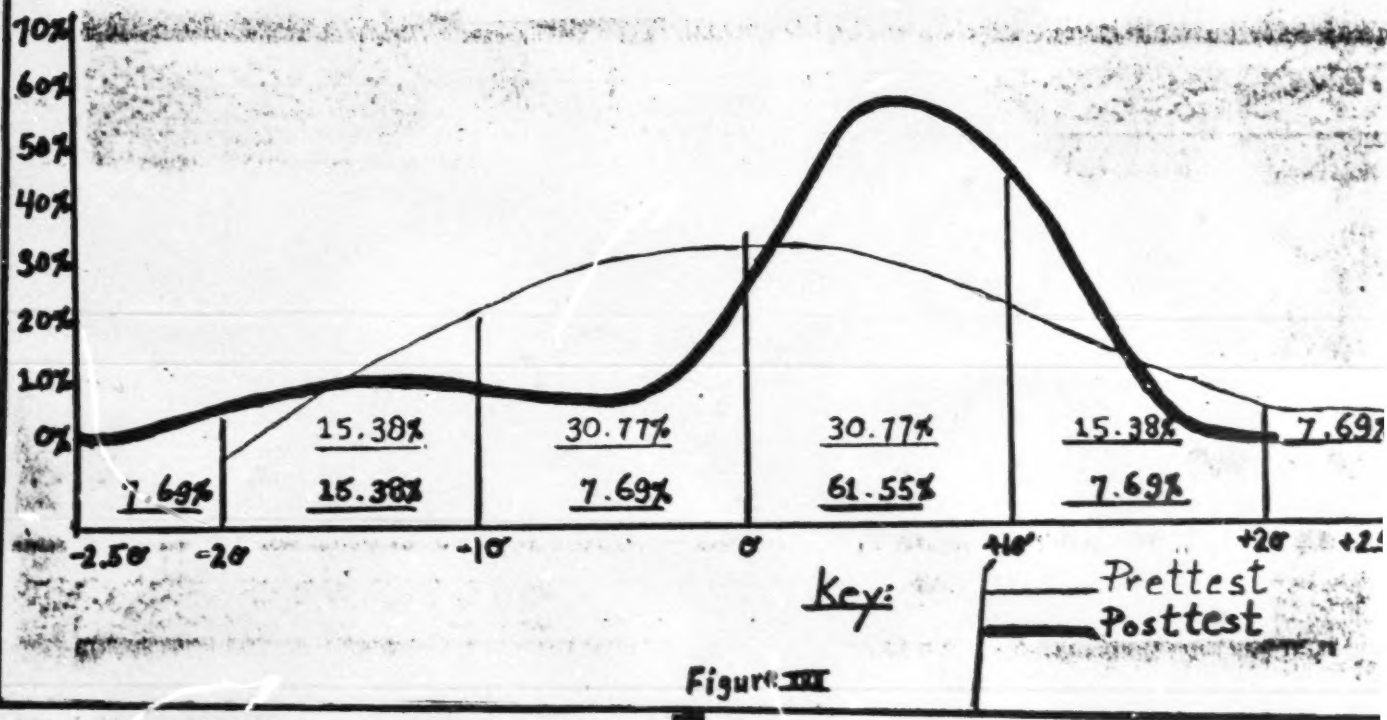


Figure XII

least one classmate of their choice, was chosen by one of the pupils in his group at the end of the four-week period.

Conclusion

If one accepts the premise that the function of instruction is to promote worthwhile modifications or desirable behavioral change in ALL children, it becomes even more important to determine what kind of modifications or behavioral changes can be effected in children with learning disabilities.

The heightened interest in children who are average or above average in intelligence, but fail to learn in a conventional manner, has shifted the emphasis among educators from "learning" disabilities to alternative "teaching" methods. At the present time, the methodology devised to facilitate the education of learning disabled children is clearly experimental and needs to be evaluated.

This study has been a preliminary investigation into the effectiveness of an individualized program model for children with learning disabilities. It did not involve a control group because it would be unconscionable to deprive these children of the best education available to them. Our finding is indicative that children with learning disabilities can make startling progress when placed in an individualized program of instruction and continuing evaluation. While evaluation is necessary to the development of an effective program of instruction for all children, for the child with a learning disability, progress depends upon evaluation.

The recent law enacted by the Connecticut State Legislature mandates that children with learning disabilities be mainstreamed into the regular classroom. This may be the beginning of a trend which will lead to similar laws being enacted throughout the country. If so, teachers, in the near future, can expect to have at least two to three students in attendance in their classes who have been diagnosed as learning disabled children, in addition to those pupils who exhibit similar characteristics, and who have always been in attendance in a regular classroom.

If mainstreaming is to be an effective alternative for the learning-disabled child,

an individualized program of instruction and continuing evaluation is essential to the child and vital to the teacher who is charged with the responsibility for his learning.

The results of this study indicate that educators must build evaluation into all their programs dealing with learning-disabled children, enrolled in special and regular classes. It is a crucial factor in the development of a relevant curriculum, relevant materials and a relevant process to meet and respond to the changing needs and abilities of every learning-disabled child.

Footnotes:

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